

$$5) \quad 32x^2 + 64x + 24 = 0$$

$$x = \frac{-64 \pm \sqrt{64^2 - 4(32)(24)}}{2(32)}$$

$$= \frac{-64 \pm \sqrt{4096 - 3072}}{64}$$

$$= \frac{-64 \pm \sqrt{1024}}{64} = \frac{-64 \pm 32}{64}$$

$$\frac{-64 + 32}{64} = \frac{-32}{64} = -\frac{1}{2} \quad \frac{-64 - 32}{-64} = \frac{-96}{-64} = \frac{3}{2}$$

$$6) -42x^2 + 10x + 12 = 0$$

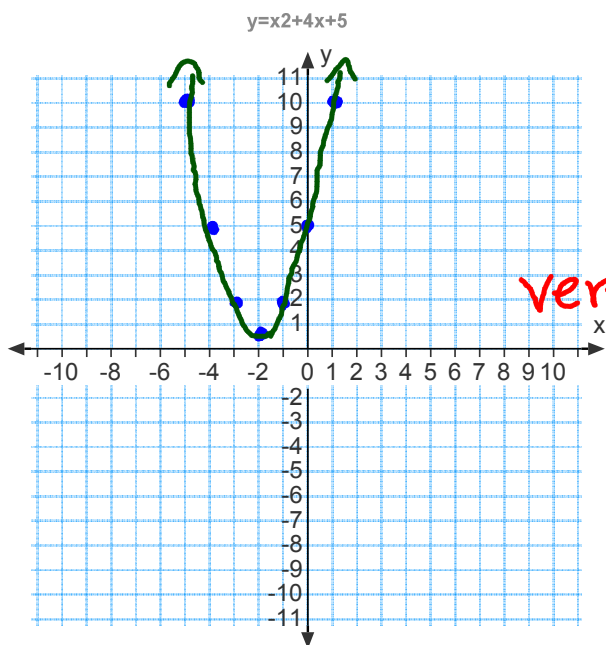
$$x = \frac{-10 \pm \sqrt{10^2 - 4(-42)(12)}}{2(-42)}$$

$$= \frac{-10 \pm \sqrt{100 + 2016}}{-84} = 2116$$

$$= \frac{-10 \pm 46}{-84}$$

$$\frac{-10 + 46}{-84} = \frac{36}{-84} = \frac{6}{-14} = \frac{3}{-7}$$

$$\frac{-10 - 46}{-84} = \frac{-56}{-84} = \frac{14}{21} = \frac{2}{3}$$



X	Y
-5	10
-4	5
-3	2
-2	1
-1	2
0	5
1	10
2	

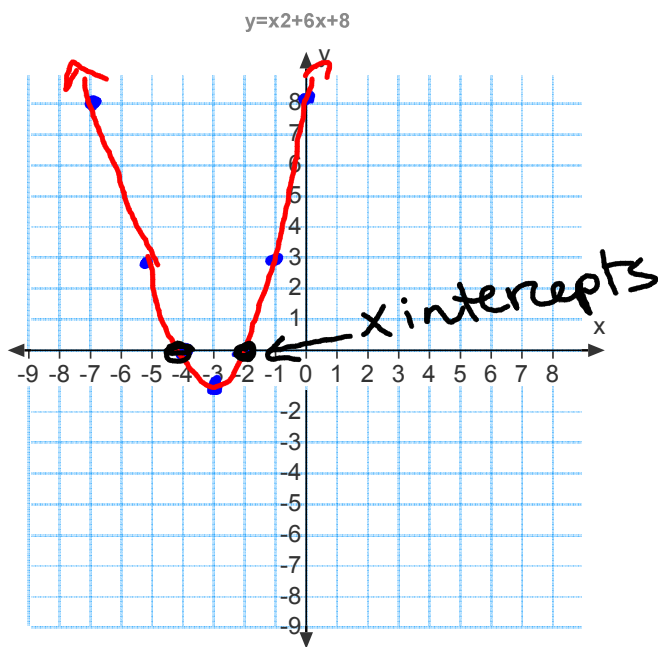
$$y = x^2 + 4x + 5$$

$$x = \frac{-b}{2a}$$

vertex

$$x = \frac{-4}{2(1)} = \frac{-4}{2}$$

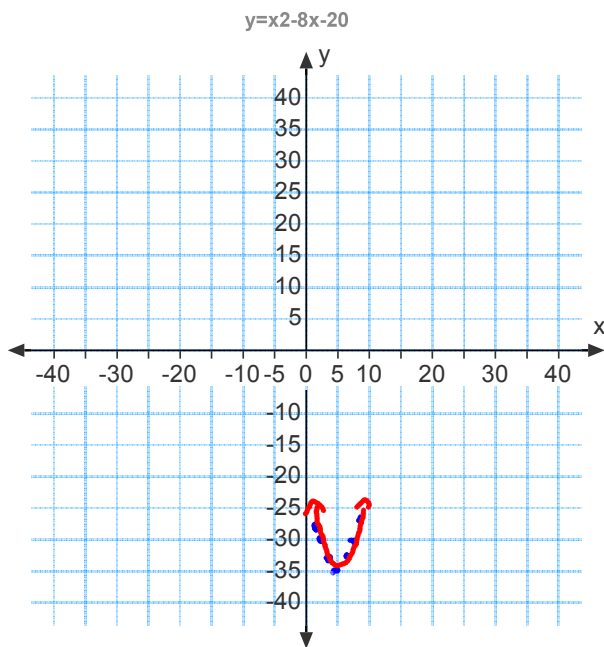
$$x = -2$$



X	Y
-6	8
-5	3
-4	0
-3	-1
-2	0
-1	3
0	8

$$x^2 + 6x + 8$$

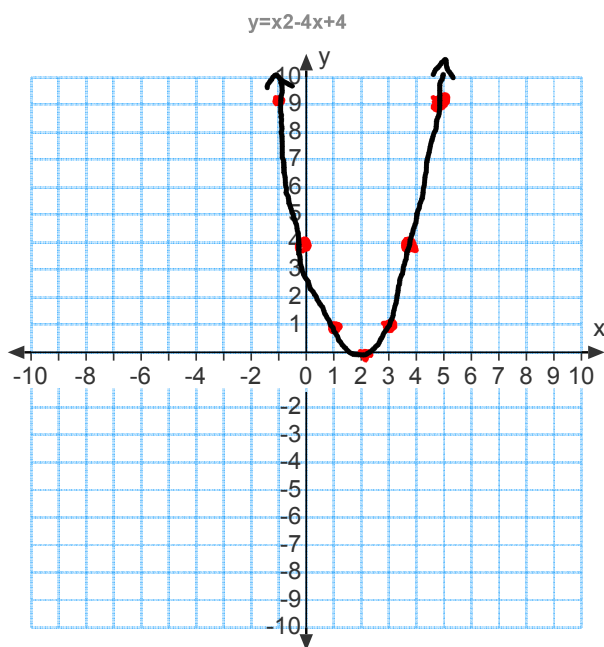
$$x = \frac{-6}{2} = -3$$



X	Y
1	-29
2	-32
3	-35
4	-36
5	-35
6	-32
7	-29

$$x^2 - 8x - 20$$

$$x = \frac{8}{2(1)} = 4$$



X	Y
-1	9
0	4
1	1
2	0
3	1
4	4
5	9

$$x^2 - 4x + 4$$

$$x = \frac{4}{2} = 2$$

$$(-1)^2 - 4(-1) + 4$$

$$1 + 4 + 4 = 9$$

$$0^2 - 4(0) + 4$$

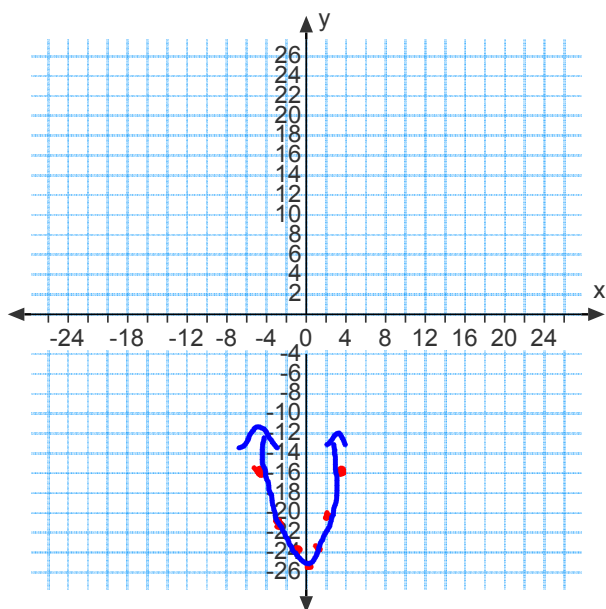
$$0 + 0 + 4 = 4$$

$$(1)^2 - 4(1) + 4$$

$$1 - 4 + 4 = 1$$

$$(2)^2 - 4(2) + 4$$

$$4 - 8 + 4 = 0$$



X	Y
-3	-16
-2	-21
-1	-24
0	-25
1	-24
2	-16
3	-9

$$x^2 - 25$$

$$a=1 \quad b=0 \quad c=-25$$

$$x = \frac{0}{2(1)} = 0$$

$$(-3)^2 - 25 = 9 - 25 = -16$$

$$(-2)^2 - 25 = 4 - 25 = -21$$

$$(-1)^2 - 25 = 1 - 25 = -24$$

$$0^2 - 25 = -25$$

$$10) -10x^2 - 12x - 2 = 0$$

$$a = -10 \quad b = -12 \quad c = -2$$

$$x = \frac{12 \pm \sqrt{(-12)^2 - 4(-10)(-2)}}{2(-10)}$$

$$\frac{12 \pm \sqrt{144 - 80}}{-20} = \frac{12 \pm \sqrt{64}}{-20}$$

$$\frac{12 \pm 8}{-20}$$

$$\frac{12+8}{-20} = -1$$

$$\frac{12-8}{-20} = \frac{4}{-20} = -\frac{1}{5}$$